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Tamara A. Valaz

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of

Daniel G. LOFFLER, et al.

Serial No.: 09 972,142

Filing Date: October 5, 2001

For: CATALYTIC SEPARATOR PLATE  
REACTOR AND METHOD OF  
CATALYTIC REFORMING OF FUEL  
TO HYDROGEN

Examiner: To Be Assigned

Group Art Unit: 1764

**PETITION PURSUANT TO 37 CFR § 1.47(a) TO FILE ON BEHALF OF INVENTORS  
WHO REFUSE TO EXECUTE A PATENT APPLICATION**

**INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR § 1.56**

BOX MISSING PARTS  
Assistant Commissioner for Patents  
Washington, D.C. 20231

RECEIVED

JUN 13 2002

OFFICE OF PETITIONS

Dear Sir:

The following is a combined petition under 37 CFR § 1.47(a) to apply for a patent without the signatures of two joint inventors who have refused to sign the declaration and Information Disclosure Statement under 37 CFR § 1.56. In accordance with 37 CFR § 1.47(a), this petition includes proof of the pertinent facts and the last known addresses of the nonsigning inventors, and is accompanied by the fee set forth in § 1.17(h).

The invention has been assigned to Catalytica Energy Systems, Inc. ("CESI") by Carlos Faz and Valery Sokolovskii, two of the joint inventors. Obtaining the filing date of the present

application is necessary to preserve the rights of the assignee and irreparable damage will result if this petition is not granted.

***Background***

U.S. Patent Application No. 09/972,142, entitled "Catalytic Separator Plate Reactor and Method of Catalytic Reforming of Fuel to Hydrogen," was filed with the U.S. Patent and Trademark Office on October 5, 2001. This application is a continuation-in-part of application no. 09/737,268, filed on December 13, 2000.

On December 10, 2001, Daniel Loffler and Enrique Iglesia, two of the inventors on the application, were each mailed copies of the declaration and assignment documents for their signatures, as well as a copy of the application as filed on October 5, 2001. Since these two inventors were no longer employed by the assignee, the documents were mailed to their home addresses. Both inventors have acknowledged that they have received and reviewed the application and have expressly refused to sign the declaration and assignment documents that were mailed to them. Daniel Loffler's refusal was oral and Enrique Iglesia's refusal was written. Attached is a copy of Dr. Iglesia's written refusal.

***Last Known Addresses of Nonsigning Inventors***

Daniel G. Loffler

181 NW Black Hawk Avenue  
Bend, OR 97701  
U.S.A.

Enrique Iglesia

499 Butterfield Place  
Moraga, CA 94556  
U.S.A.

*Statement of Facts Regarding Daniel Loffler's Oral Refusal to Sign*

After receiving declaration and assignment documents, and a copy of the present application, Daniel Loffler telephoned the undersigned on December 14, 2001, and stated that he was concerned about the inventorship of claims 10-12, which relate to corrugation of the separator plate in an apparatus of the invention. He further stated that during a video conference with employees of McDermott Technologies, Inc. ("MTI") in April, 2000, someone from MTI had mentioned and shown pictures of corrugations during a discussion about the invention. He also stated that use of a heater, as in unamended claim 27, may also have been suggested by MTI.

On January 4, 2002, Charles D. Holland, another attorney at Morrison and Foerster (reg. no. 35,196), and the undersigned spoke with Daniel Loffler by telephone. Dr. Ralph Dalla Betta, Chief Technical Officer and Vice President of Research and Development for CESI, was also present on the conference call. Dr. Loffler said that he thought signing the declaration would constitute "fraud on the Patent Office" in the absence of confirmation from MTI that they did not claim ownership of the claimed subject matter. He stated that MTI had reviewed the parent application and had not claimed an ownership interest, and that he would like to send the current application to MTI for review as well. Dr. Loffler reiterated his statement that corrugated plates and use of a heater were discussed with MTI. However, he stated that although the first oral "suggestion" of the corrugations was by MTI, he had already thought of using corrugations prior to that suggestion being made. Dr. Loffler also said that straight parallel channels, as recited in claim 11, "make no technical sense" and that he would not sign a declaration for an application that includes claim 11. With regard to use of a heater, as specified in unamended claim 27, he said that he believed MTI had suggested heating the plate using an electrical heater, but that as far as he could recall, MTI had not suggested preheating the gas stream. When we suggested amending the claims to recite heating of the gas stream prior to its introduction into the channel, Dr. Loffler said that amendment of the claims would not be sufficient to convince him to sign the declaration and assignment.

On January 9, 2002, Charles Holland and the undersigned telephoned Daniel Loffler again to discuss the patent application. Dr. Loffler said that he is willing to sign a declaration that he is first inventor of the parent application. (A declaration was previously signed by Dr. Loffler on January 25, 2001 for the parent application.) However, he reiterated his objections above but also indicated that showing the new claims to MTI would remove his major objection if MTI would confirm that they do not claim inventorship of these claims.

On or shortly after May 6, 2002, a copy of the published PCT application corresponding to the present U.S. application was forwarded by Dr. Dalla Betta to MTI for review and comments. MTI has not as yet commented on the application.

On May 31, 2002, Charles Holland and the undersigned left a voice mail message for Dr. Loffler, asking him to return our call to discuss the patent application and signing of the declaration. He has not yet returned our call.

#### ***Statement of Facts Regarding Enrique Iglesia's Written Refusal to Sign***

On December 14, 2001, the undersigned contacted Dr. Enrique Iglesia by e-mail, and asked whether he had received the declaration, assignment, and copy of the application that we had sent him. He responded that he had received everything and that in reviewing the application, "some of the claims appear to differ substantially" from those in the parent application. He stated that he would be out of the office until January 6 and that "a detailed response and comments about this application will have to wait until then."

On January 9, 2002, Charles Holland and the undersigned spoke with Dr. Iglesia by telephone. He said that he objected to the fact that the CIP was filed without consulting him and that he questions the technical relevance of the new matter that was added. He said he would fax a letter.

On January 10, 2002, Dr. Iglesia faxed a letter, a copy of which is attached. In the letter, he stated that claims 10-12, directed to corrugated plates, "are technically unsound." He stated that "[t]he concept of corrugated plates was discussed -- and dismissed as unsound -- in

discussions [with] Dr. Loffler in the early stages of the inventive process leading to the original U.S. patent application.” This statement concurs with Dr. Loffler’s statement that he had thought of corrugations prior to the April, 2000 meeting with MTI (see above). Dr. Iglesia’s letter also stated that unamended claim 27, directed to use of a heater, “is neither novel nor required for the invention.” He also stated, “I find it at least procedurally awkward, if not appropriate, that such additional subject matter and claims have been incorporated, and the application filed, without consultation with or the consent of the inventors of record and that the inventor(s) of these additional claims are not included in the two new applications.” (By “two new applications,” he is referring to the present application and a PCT application that corresponds to the present application.) He further stated, “I will sign the requested documents only for an International Application that accurately reflects the envisioned joint invention, as described in the original U.S. application.”

### ***Conclusion***

Both Daniel Loffler and Enrique Iglesia have refused to sign the declaration for application no. 09/972,142, both expressly and by their conduct. Accompanying this petition is a declaration signed by the other two joint inventors, Carlos Faz and Valery Sokolovskii, with the signature blocks of the nonsigning inventors left blank, which may be treated as having been signed on behalf of the nonsigning inventors (MPEP § 409.03(a)).

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 220772007420.

Respectfully submitted,

Dated: June 6, 2002

By: Jill A. Jacobson

Jill A. Jacobson  
Registration No. 40,030

Morrison & Foerster LLP  
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SANTA BARBARA SANTA CRUZ



## DEPARTMENT OF CHEMICAL ENGINEERING

201 GILMAN HALL, BERKELEY, CA 94720-1452

## FACSIMILE TRANSMITTAL SHEET

TO

Mr. Charles Holland  
 COMPANY Morrison + Foster  
International Patent Dept.

FROM

Maerian Morris

DATE

1-10-02

FAX NUMBER

650-494-0792

TOTAL NO. OF PAGES INCLUDING COVER

4

PHONE NUMBER

SENDER'S PHONE NUMBER

510-643-1557

RE Letter from Prof. Iglesia -  
US app. # 09/972,1424  
Pat. app. PCT/US01/42530

SENDER'S EMAIL ADDRESS

maerian@mailbox.chem.berkeley.edu

URGENT  FOR REVIEW  PLEASE COMMENT  PLEASE REPLY  PLEASE RECYCLE

NOTES/COMMENTS

Following, please find letter from  
 Prof. Iglesia for your review.

Thanks,

*Maerian*

Maerian Morris  
 Administrative Specialist  
 Assistant to Professors Bell, Iglesia, Chakraborty and Katz  
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## UNIVERSITY OF CALIFORNIA, BERKELEY

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 Palo Alto, CA 94304-1018  
 Fax: (650) 494-0792

8 January 2002

Dear Mr. Holland:

I have reviewed the contents of U.S. Application Serial No. 09/972,142 (October 5, 2001) and of International Patent Application No. PCT/US01/42530. I understand these two documents to be identical in content and claims. Both represent modified versions of a previous U.S Patent Application with identical title and authorship. These two new applications contain additional subject matter and claims that are not part of the invention, as originally conceived and filed. I find these additions to be either technically unsound or obvious; they do not accurately represent the original inventions of the co-authors of record.

My technical assessment is that new claims 10, 11, and 12, dealing with corrugated plates of the type depicted in Figure 10, are technically unsound and not part of the original invention on which the above referenced two applications are based. These corrugated plates are misleadingly described as flow redirecting devices. They do not redirect flow in the relevant direction perpendicular to the wall. The concept of corrugated plates in the context of the specific straight and zig-zag channels in Figure 10 was discussed -- and dismissed as unsound -- in discussions between Dr. Loffler in the early stages of the inventive process leading to the original U.S patent application.

In my technical judgment, the only other new claim (#27), dealing with electrical heating of inlet streams, is neither novel nor required for the invention. This matter is best included, if at all, as a disclosure, in the context of one of the many different ways of pre-heating the inlet streams. These many ways would be obvious to one versed in the art.

Thus, I request for the record that the aforementioned claims be excised and that the contents of the original invention be preserved as such. Any additional claims can be included by CESI as CIP applications, for which I neither claim nor desire authorship. I consider these additional claims to be unsound, redundant, and/or non-novel.

I find it at least procedurally awkward, if not inappropriate, that such additional subject matter and claims have been incorporated, and the application filed, without consultation with or the consent of the inventors of record and that the inventor(s) of these additional claims are not included in the two new applications.

I will sign the requested documents only for an International Application that accurately reflects the envisioned joint invention, as described in the original U.S. application. If you are able and choose to proceed without my signature, I would request that you exercise due candor in communicating to both the U.S. and the International Patent Offices the reasons for my decision, as well as the verbatim contents of this letter.

These statements are made in good faith and they are based on my best technical judgment. The attached biographical note attests to my broad expertise and experience in this area, which provide the basis for the technical judgment that I have exercised in this matter.

Finally, please note that my time is of significant financial value to me in my capacities as a sought-after consultant and faculty member, and that I cannot continue to dedicate time and effort to review and correct details of a patent that was legally and accurately filed well before my consulting contract with Catalytica, Inc. and CESI ended. Future inquiries should be accompanied by a contract for consulting services at my customary consulting rate of 2300 USD per day and by a stipulation of the amount of time that would be required and covered for each specific task. I have already spent 5.5 hours reviewing the new application and the previous one and redacting this letter.

Sincerely,



Enrique Iglesia

Professor of Chemical Engineering, University of California at Berkeley  
Director, Berkeley Catalysis Center  
Faculty Scientist, E.O. Lawrence Berkeley National Laboratory, U.S. Department of Energy

## BIOGRAPHICAL NOTE

### ENRIQUE IGLESLA

Enrique Iglesia is Professor of Chemical Engineering at the University of California at Berkeley and a Faculty Scientist in the E.O. Lawrence Berkeley National Laboratory of the U.S. Department of Energy. He received his Ph.D. degree in Chemical Engineering in 1982 from Stanford University. In 1993, he joined the University of California at Berkeley as Professor of Chemical Engineering, after eleven years of research and management experience in heterogeneous catalysis and reaction engineering at the Corporate Research Laboratories of Exxon Research and Engineering.

He is Editor-in-Chief of the *Journal of Catalysis* – the premiere journal in the field, and he has served on the Editorial Boards of *Energy and Fuels*, *Catalysis Today*, *Industrial Catalysis News*, and *Catalysis Surveys*. He is past chairman of the Division of Petroleum Chemistry of the American Chemical Society and a Director in the Division of Catalysis and Reaction Engineering of the American Institute of Chemical Engineers. He is currently the director of the Berkeley Catalysis Center. His recent awards include the 1997 Paul H. Emmett Award in Fundamental Catalysis of the Catalysis Society, the 1997 Eminent Visitor Award of the Chemical Society of South Africa, the 1996 Award for Excellence in Academic Teaching of the American Institute of Chemical Engineers, and the 1998 Best Teacher Award of the Berkeley Chapter of the American Institute of Chemical Engineering.

Professor Iglesia has been involved in studies of heterogeneous catalysts for the direct and indirect conversion of methane to higher hydrocarbons, uses of light alkanes in desulfurization and de- $\text{NO}_x$  reactions, dehydrogenation of light alkanes to alkenes and aromatics, catalytic reforming and cracking processes, for low-temperature isomerization, alkylation, and combustion reactions. Current research projects also include the practical use of catalytic membranes to combine reaction and separation functions in alkane dehydrogenation and conversion processes and the development of theoretical methods for predicting the structure, transport, and chemical properties of porous solid catalysts. His research group at Berkeley combines expertise and facilities for the synthesis of novel catalytic solids, their in-situ structural and mechanistic characterization, and the detailed modeling of kinetic and transport processes in catalytic processes relevant to oil refining and petrochemical synthesis. Professor Iglesia has co-authored more than 150 publications and over 30 patents. He has presented more than 20 plenary lectures in the leading scientific conferences in chemical engineering and catalysis.